

Aviation News

McGraw-Hill Publishing Company, Inc.

JULY 3, 1944



Heads New Feeder Group: As president of the recently-organized Feeder Airlines Association, Harry R. Stringer (above) will direct its program for establishment of a network of feeder airlines and the general advancement of civil aviation. Stringer is vice-president of All American Aviation, the country's only air pickup service.

Harvard Surplus Report Studied

Analysis urges quick transfer of available aircraft, even during the war, in interest of post-war development...Page 7

CPT Move Favors Civil Groups

Another measure expected to be introduced if present two-year bill does not carry over into peacetime...Page 16

Better Metal Situation Hinted

Nelson's move to permit use of supplies where labor is available is interpreted as presaging relaxation...Page 15

Value of Glider Forces Seen

New weapon was used effectively to hamstring Japs and later to disrupt Nazi lines during invasion...Page 19

Executives' Salaries Rise 10%

Survey of schedules filed with CAB reveals that only six companies paid presidents more than \$25,000...Page 35

15 More Planes Returned

Airlines' equipment units now up to 257, only 67 less than they had before the reduction in May, 1942...Page 48

Air Mileage Near Pre-War Mark

Despite suspensions and loss of equipment, more than 44,000 miles in operation, compared with 45,132 before war...Page 39

Post-War Research Unit Named

Charles E. Wilson heads group formed to plan continuous development of aircraft and other equipment...Page 29

KEN-RAD

Metal Tubes

FOR AIRBORNE EQUIPMENT



The weight and space saving advantages of Ken-Rad "self-shielding" metal tubes have long been recognized. Their sturdy ruggedness under severe service conditions in fighters and bombers is a matter of record.

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SPECIAL PURPOSE TUBES
RECEIVING TUBES
INCANDESCENT LAMPS
FLUORESCENT LAMPS

THE AVIATION NEWS

Washington Observer

NOSE IN STORE FOR NAZIS—Germany's arsenal of fire, bombs and bullets from Adolf will intensify as Allied invaders approach the Nazi homeland. Medium bombers, fighter bombers and other attack planes on advance bases in France and elsewhere will be able to reach enemy concentrations and military objectives with effective loads of missiles and ammunition. Lockheed P-38s, North American P-51s and Republic P-47s already have covered most of Germany in bomber escorts, but much of their carrying capacity was devoted to fuel-plus guns and ammunition. Air Force officials admit that the P-38 can carry 4,000 pounds of bombs. This would be short range, of course. Undoubtedly the other fighters can give about the same performance.

BRITISH AIRCRAFT INDUSTRY—A British aviation leader conceded recently that "we (the British) can never again be so dependent as to allow our military aircraft to shrink to a dangerously low level and this means that the industry must be maintained on a high technical basis which will necessitate considerable expenditure by the government on research and development." This thought follows that of some of our own industry leaders and should give added emphasis to programs within our own industry. Sometimes in the discussion about post-war aviation, the question of future air transport overbushes future aircraft manufacturing. The two invariably must go together.

VOICE FOR AVIATION—A high ranking member of Congress observed the other day that aviation—the nation's greatest industry—has no voice which is heard by Congress when legislation affecting the industry is pending. Virtually all other industries and related groups appear before various Congressional committees, but aviation, this member said, has been strangely

lacking in this respect. He referred not only to legislation affecting the industry directly, but to all manner of legislation which concerns the industry indirectly, one way or another. The few industry representatives who have appeared before Congressional committees have made a definite, favorable impression this House leader said, and he mentioned J. Carlton Ward, Jr., specifically. Caution was that there should be more aviation representatives like Ward to let Congress know where the industry stands on issues affecting it.

CONGRESS-SEIT—There is little doubt that the industry has been somewhat leary of Washington appearances. Part of this probably goes back to the days when the industry was virtually dependent on military orders for its existence and there was a disinclination to make any move that might incur the displeasure of those who had a voice in the granting of contracts. Aviation has grown up since those days, however, and the government and the military need a strong aircraft manufacturing industry as a part of the nation's future safety and economy. Now, many government leaders, such as the Congressman mentioned above, seek the views of aircraft industry leaders.

ROBOT DEFENSE—American anti-aircraft gunners moved into the north England robot-bomb territory to bolster defenses against Germany's pilotless plane bombs have had some experience in shooting down just such projectiles. American AA schools have used a rocket target since 1941. Ours have a speed of something like 450 mph. They were designed as an improvement on the plane-towed sleeve target.

SERVICE UNIFICATION—Although unification of the armed services arm has been re-



Giant bomber lands on portable runway at Pacific base

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FAST FREIGHT and mail will cross the ocean on the Martin Mars as ideal for transportation of perishable foods, along high-altitude cold for refrigeration.

The MARTIN MARS affects your POSTWAR PLANS!

IN the Mars flying boat, airline operators will have a successful type thoroughly tested in oceanic transportation. She's the most efficient airplane yet built, per pound of material used, per horsepower, per gallon of fuel, and has the lowest take-off cost.

Start revising your postwar plans! For these are no visionary, far-distant ships. They are commercial versions of the Martin Mars. The original Mars is now in regular trans-Pacific service with the Navy, while 30 larger 83-100 Mars Navy transports are under construction. The class of tomorrow is flying today!

As war's end, Mars production lines will be cooled and manned for fast delivery. If the industry is permitted to set aside funds for such postwar construction and employment, American industry will be first in peace as it is in war.

The GLENN L. MARTIN COMPANY, BALTIMORE 3, Md.
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LUXURY LINER of the air, the Martin 870-1 is designed to provide complete living facilities for 50 passengers during flights of 24 hours or less.



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VOLUME 1 • NUMBER 48

Aviation News
McGraw-Hill Publishing Co., Inc.

July 3, 1944

AAF-Harvard Survey Asks Speedy Disposal of Surplus Airplanes

Analysis urges quick transfer of available aircraft, even during the war, in interest of peacetime development of new models; suggests terminable-installment method.

By WILLIAM G. KEYS

The Army and Navy should transfer surplus airplanes and components as soon as practicable, even during the war, in the interest of their post-war development of new aircraft, and terminable-installment sale of transports to airlines as the most practical method of handling that problem, the Harvard School of Business Administration reports in a survey made for the Army Air Forces.

The report was released by the War Contracts Subcommittee of the Senate Military Affairs Committee after it had been submitted to Col. F. Trubee Davison, AAF Chief of the Special Projects Office and a member of the Postwar Surplus Aircraft Advisory Subcommittee, which is now drawing recommendations for the Surplus War Property Administration.

Reactions Mixed—Indirect reaction to the Harvard report was sparse, since copies were extremely limited—the report first was held as a War Department document, not for general release and then was released through the Murray Subcommittee. "I would say that early reaction was not unfavorable," said one source, while another said he felt that the report showed "considerable thought," but that it was "disappointing."

Additional copies were to be available this week and possibly will draw comment. The chief departure of the report from previously considered means of handling the surplus plane program rests in the recommendation for terminable installment purchase of planes by airlines, rather than outright purchase or lease agreement.

Payment Methods—Since airlines have not yet paid for surplus planes being returned to commercial transport service by the AAF, the report may have a major bearing on the final decision as to the method of payment, over which there has been considerable discussion.

The Harvard group recommends that price be based on commercial value rather than cost to the Government, and points out that the terminable-installment method removes the element of chance from such factors as the length of the war and the economic life of the plane after the war. The report further suggests that under these terms of sale the Government pay all overhead costs, with the purchaser paying all modification costs. Thus, here buying AC-49 for cargo use would pay no modification costs, while an airline desiring the best accommodations for passengers would pay between \$13,000 and \$38,000 for modifications.

Supply Limited—The report suggests that there may be fewer surplus transport planes than generally supposed. Attrition rates, excess conversion costs, and the heavy movement of military and official personnel, emergency supplies and medicines in both occupied



COMMERCIAL VERSION OF THE LIBERATOR:

Latest photo released of Consolidated-Vultee Aircraft Corp.'s prototype Model 20, which flew to Washington last week to take high government officials on demonstration flights.

First drawings of this ship, the proposed commercial version of the Liberator bomber, appeared in AVIATION NEWS April 10 and April 17.

Europe and all sectors of China will absorb a substantial portion of the apparent surplus, the report states. However, it does anticipate that there will be an excess of C-47 and C-48 types above domestic commercial uses.

To utilize this excess supply, the Harvard report suggests that the planes be sold at sharply reduced prices for restricted non-competing uses—uses that do not compete with air traffic that would otherwise develop without low-price surplus equipment. It cites as an example certain contract cargo operations, such as the movement of fresh fruit to northern industrial markets, which would be possible only with low-cost surplus equipment. It is suggested that the Civil Aeronautics Board would have to control disposition and use of such planes.

Last War Example.—The example of the last war, the Harvard report says, that while there might be some advantage in maintaining as large a reserve of equipment as can be stored, the Army Air Forces will fare better in terms of adequate material if it divests itself of all truly excess and obsolete wartime equipment.

To avoid confusion and criticism of the armed services, the report strongly recommends the handling of all material declared

Planes for CAB

The Civil Aeronautics Board is conferring with the Army to acquire 12 Sikorski HO4S helicopters for its Safety Bureau's accident investigators, most of whom are licensed pilots.

A small two-engine transport for four-wheel aircraft may also be purchased. The Helicopters are single-engine, two-place ships.

surplus by a central agency such as that already set up in the Surplus War Property Administration. It generally recommends that all sales and reconditioning, all overhaul and modification work be done by the original design manufacturer. The original manufacturer would act as agent for the Government in sale of the equipment.

Other highlights of the report are:

- ▶ Sale of surplus types to civilians should be barred in the interest of safety.
- ▶ All surplus sales should end three to five years after the war.
- ▶ The Army and the Navy should be ready to place development orders with the manufacturers as soon as contracts are terminated.

Thus, the report says, will be more valuable than small additional production of standard military models.

The report hints that air transport work is rehabilitation of wartime assets may be earned on by the Air Transport Committee, in which case planes would not appear as surplus, but would remove those planes from the surplus pool.

Ask Maximum Use of Smaller Planes

Harvard survey was consistent less to government and give to civil aviation in careful disposal.

An effort to obtain maximum use of smaller types of non-military planes is recommended by the Harvard School of Business Administration report.

Emphasis in these sales would come from rehabilitation and sale through the original manufacturer to overhaul, modification and sale by dealers.

Sales through modified auctions rather than sealed bids would be made, if the recommendations are followed, to encourage participation by small fixed-base operators and private firms. An announced maximum price and pooled bids would be used.

▶ **Scrap to Be Scrapped.**—The Har-



MODEL HELICOPTER USED IN COAST GUARD TRAINING

A model of the Sikorski HO4S helicopter—the result of 2,000 hours' work by Evans H. Fraenkelberger, of the U. S. Coast Guard, is being used at the Coast Guard Air Station at Floyd Bennett field, New York, to aid in the training of new pilots. Fraenkelberger, a

Sikorski employee for eight years, has made it in perfect detail, even down to a five five extinguisher that can be relied from its clamps. The model was displayed at the recent demonstration of Sikorski helicopters.

vard report says that many of the surplus planes should be scrapped in the interest of air safety, and recommends that the balance be modified from military standards to meet civil air regulations before being offered for sale.

Dealers, under the recommendations, would be protected against undue inventory losses through a rebate system, quantity discounts—made cumulative to aid small dealers—would be an integral part of the system, and there would be no lease, installment purchase or other complex financial arrangements to complicate sales.

▶ **Price Factors.**—The minimum price should be set with a view to obtaining the maximum possible distribution consistent with reasonable proceeds for the government. A lowering in price, the report states, such as actually to decrease somewhat the total proceeds might be to the public interest if a much larger number of planes were distributed thereby stimulating the growth of civilian aviation.

The survey advises allocation or lease to approved schools of certain military trainers which would be used to accomplish specified training objectives valuable to the service.

3-Way Shuttle Raid

The war's first triangular shuttle raid on Axis Europe has been launched by U. S. Air Forces Headquarters—a flight by Flying Fortresses from Britain, to Russia and then on to Italy by way of Berlin and the Gelazica oil fields.

U. S. to Ship Excess Warplanes Home

Rules established for determining if aircraft are worth repairing and sending back to America for resale.

Rare aircraft in overseas theaters will be returned to this country if they can be restored to full operational or flying condition. The planes must be restorable within designated man-hour limits.

Surplus planes, as provided by Surplus War Property Board orders, will be certified to local agents of the Federal Economic Administration. The excess category includes planes above local theater needs, while surplus planes are those beyond needs of the War Department for use in any theater or in this country.

▶ **Some Repaired.**—Planes fixed to be in excess of local theater needs and which would take more than the designated man-hours for repair, will be declared surplus and commanders of the various air forces are directed to "lend every assistance" to the FEAC and customers who might buy the planes in place of non-flyable planes in condition for delivery by flight "or other means."

Aircraft within range for flight return must be in such condition that they can be repaired for the flight back. Others will be shipped back if they meet standards.

Single engine fighters 3,000, twin engine fighters 5,000, four engine transports 8,000, multi-engine bombers 3,000.

Excess type aircraft and gliders will be virtually non-repairable, since they cannot be repaired to this country unless already in condition for operational or flight training use.

Rare aircraft will be designated as returnable or non-returnable by a committee of three qualified military personnel and an AAF engineering officer.

▶ **Committee.**—Disposition of surplus aircraft will be designated by a similar military committee which may or may not be expanded to include a local representative of the State Department and the FEAC as advisory members.

Surplus aircraft ruled non-repairable will be mutilated and turned over to a salvage officer.

Year Book Read

The Aircraft Year Book for 1944, edited by Howard Minton, made its appearance last week, comprising over 700 pages of data on U. S. aviation participation in the war, Civil Air Patrol, wartime air transport industry, air training work of the Federal Bureau, and sections on aviation facts and figures, aircraft designs and an aviation directory. The volume, an official publication of the Aeronautical Chamber of Commerce, is published by Lattimore Publishers, Inc., 10 Rockefeller Plaza, New York. Price is \$4.



AWPC ACCOUNTING COMMITTEE

Changing military requirements for warplane production pose problems of major significance for top finance officers of the West Coast aircraft companies. Members of the West Coast Aircraft War Production Council's accounting committee also have a local concern with other pressing industry problems, that of surplus materials redistribution having outstanding. Committee members are, left to right: Dudley E. Brown, comptroller, Lockheed; R. A. Lambeth, vice-

president and treasurer, North American; R. V. Bass, vice-president and comptroller, Douglas; James C. Nash, comptroller, Ryan Aeronautical Co.; and L. K. Grent, assistant comptroller, Consolidated Vultee. Standing is William F. Petre, AWPC assistant chairman. Committee members who are not seen in this picture are: M. E. Bowman, secretary-comptroller; Irving and Claude N. Mosson, treasurer, Northrop.



ARTIST'S CONCEPTION OF ROBOT PLANE:

Hiller's so-called "secret weapons" looked like that to an artist in England. Attacks by the robot bomb have not affected military objectives, but have caused civilian destruction and thousands of deaths in southern England. The bombs are propelled by a single jet engine in the nose and stop the body of the bomb.

Navy Cuts Back On Pilot Training

Fewer men needed as result of increasingly low attrition rate.

A downward revision of the Naval air training program is under way, says a study of the program making it evident that the Navy must reduce substantially the number of men accepted for pilot training.

The Navy is rapidly reaching the point where only replacement pilots need be trained. With the decrease in demand for large numbers of new pilots, it has been decided to lengthen the pilot training program.

Reaches Reduced Stage—Starting June 26, entries from the pre-flight stage of training into primary flight stage were reduced approximately one-third of the previously scheduled rate of entry. Reduction in pilot requirements are such that only about 50 percent of those students in stages earlier than primary training will be permitted to continue flight training.

Among the factors contributing to the revision is the unexpectedly low attrition rate of Navy and Marine pilots in actual combat. Their fighting qualities, superior training and equipment have produced a rate of survival nearly one-third greater than had been expected.

Cadets Notified—Rear Admiral A. W. Bedford acting deputy chief of operations (air) has sent letters to cadets notifying them of the reduced training program and explaining why it is necessary.

A statement by the department said the Navy will offer these cadets the widest practicable choice as to their future service.



GERMAN TRANSPORT:

This scene from a German newspaper, received from neutral sources in Lisbon, describes this as a motorized, armored troop carrier being placed aboard one of the Nazis' air-crafted "gliders," previously prepared in the Nazis for transportation to the Russian front.

and it is hoped that the majority will elect to remain within the aeronautical organization.

14,000 Affected—While the Navy did not specify the number of air cadets who will be affected, some sources on Capitol Hill said between 10,000 and 12,000 probably would be dropped or diverted to other programs and that in the future new cadets will be selected from men already in the naval service.

The cutback in the Navy's program recalls that the AAF, just a few weeks ago, transferred 16,000 pilot trainees to the ground force and indicates that pilot training is well ahead of original estimates, a particularly significant trend at a time when combat tempo is up in all theaters.

End Wasp Recruiting

Recruiting of WASPs has been halted, Gen. H. H. Arnold, commanding general of the Army Air Forces, revealed last week.

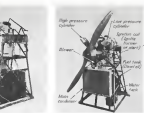
The present training program for approximately 348 WASPs will be continued and the 731 presently engaged in non-combat duty will be retained, Arnold said.

The attitude of Congress, which defeated a bill to incorporate the WASPs in the AAF, is given as the reason for dropping the remaining program.



STEAM POWER PLANT FOR AIRPLANES:

Post-war production of a high efficiency steam power plant for planes is contemplated by Louis C. Trosky, a Chicago inventor. Three views of his engine are shown here. On the left is a side view, with the low pressure cylinder at the upper left of the photo, the



Claims Steam Plant For Post-War Planes

Flight tests in 1935, conducted on West Coast, scaled by new engine designed by Louis Trosky.

Plans of a Chicago inventor, Louis C. Trosky, for post-war production of a high-efficiency steam power plant for airplanes are of more than passing interest in the light of successful West Coast steam flight tests conducted in 1935 at Oakland, Calif.

A review of these tests, conducted primarily to gain publicity for a light-weight steam power plant developed for industrial use by William F. Heider, may stimulate a revival of practical research in steam power flight.

Condensers—The Heider boiler, fired by a Diesel oil burner, maintained a steam temperature of 750 degrees Fahrenheit and a pressure of approximately 1240 p.s.i. Condensers removed feedwater from exhaust steam developed from a 15-gallon water supply.

A two-cylinder double-acting compound engine was used, developing 150 hp at 1425 rpm, under 1440 p.s.i. steam pressure.

The boiler and condensing system weighed 300 pounds and the engine 150 pounds.

Placed in Plane—Installed in a two-place Trivettair biplane, the power plant developed a full head of steam within ten minutes. Because the boiler lacked pressure controls no effort was made to determine maximum speed. Light weight, or figures on operating con-

sumption control below, the throttle in the right center and the main condenser of the bottom. Center photo shows a complete boiler, condenser, engine, fuel and water tanks on a test stand. Photo at right shows front view of the power plant on the test stand.

sumption control below, the throttle in the right center and the main condenser of the bottom. Center photo shows a complete boiler, condenser, engine, fuel and water tanks on a test stand. Photo at right shows front view of the power plant on the test stand.

Makes No Claims—Heider today gives no indication that he will attempt to invade the field of aircraft power plants, nor does he intend to estimate the degree to which a modern, light-weight steam engine might compete with gas turbine and jet propulsion engines.

In view of recent developments in turbojet and turbo-prop techniques, there is an indicated opportunity for a new comparison of steam and internal combustion engines with respect to power-weight ratio, flight range, reliability, safety and operating and maintenance costs.—B L



New GM Plane Engine—Three-quarter front view of General Motors Research Laboratories Model M-248-B, a two-cylinder, four-cylinder liquid-cooled powerplant which has been undergoing flight tests in a Cessna in the Detroit area for the last year.

Data Out on New GM Lightplane Engine

Powerplant expected to be strong contender in post-war market.

First detailed description of the General Motors experimental two-cylinder four-cylinder liquid cooled engine, which has been undergoing flight tests in the Detroit area for more than a year, has recently become available to the public. The engine which may be a strong post-war competitor in the lightplane powerplant field, has been test flown in a Cessna and is reported easily distinguishable from other aircraft by its peculiar high-glided wheel.

Rated at 240 hp.—The compact light powerplant, which has 250 cubic inch displacement, according to the 1943 Aeronautical, is rated at 240 hp at 2500 rpm, weighs 275 pounds dry, or has a specific weight of 1.375 pounds per horsepower, a considerable weight saving over most engines of comparable power which average around two pounds per horsepower.

A centrifugal blower and all other accessories except electric generator are mounted on the rear and driven from the rear end of the crankshaft by a flexible drive gear. Fuel consumption is given as 0.93 pound per horsepower hour, at 75 per cent power. Standard equipment includes dual battery type ignition, and glow burner with provision for fuel pump, vacuum pump, dual tachometer drives, automatic type starter and generator.

July 4—Worcester, Mass.—Board of General Aviation, Los Angeles.
July 4—Columbia, Pa.—Traffic Committee, General Aviation.
July 4—141st—American Association of Airport Engineers, Washington.
July 24-25—44th Annual Conference of American, Annual Meeting, Denver.
July 24-25—44th Annual General Conference, National Association of Airport Engineers, Washington.
July 24-25—General Information Council meeting, American Airport Engineers, Washington.
July 24-25—Traffic Committee, General Aviation, Columbia, Pa.
July 24-25—National Airport Engineers and Traffic Committee, General Aviation, Columbia, Pa.
July 24-25—National Association of Airport Engineers, Annual Meeting, Denver.
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GRUMMAN TORPEDO PLANE FIRES ROCKETS:

Rocket installations on the underside of the wing are clearly visible in this new photo of a Grumman Avenger working up on the flight deck of an aircraft carrier.

FEDERAL DIGEST

Piston Ring Plant Problems Discussed

Summary of week's activities in U. S. and war agencies.

By MARY PAULINE PERRY

War Production Board's Piston Ring Manufacturing Industry Advisory Committee met recently to discuss manpower problems, the effect of the aircraft embargo on the production of automotive type piston rings, status of Canadian production, and the need for a price increase to maintain production of piston rings for other than small car uses.

Small plants will be granted some relief from production quota restrictions under a plan approved by the Smaller War Plants Corp. Under the plan, small plants may increase their operations to a rate which is equal to the over-all industry rate of production for any given civilian item. Consideration will be on production both for civilian use and for military and air.

WFB Form 617—Applicants who normally use WFB Form 617 to obtain permits under Conservation Order L-1 to acquire or construct facilities are advised to follow the revised instructions for filing that form, which are effective now.

WFB met that in making returns of unused allotments in civilian agencies or WFB industry divisions, secondary consumers of controlled materials should make separate returns for each different item they are manufacturing and

for which they have unused allotments.

Radio Equipment—Due to increased requirements for the first half of 1944 for radio and electronic equipment supplies, any increase for civilians is unlikely in the near future, WFB said.

War Documents From Adjutant General—Summary of a 100,000 document collection requirements submitted to the War Department, Department of War, to be used for the war to 1945.

Effect of Labor Control—Summary of a 100,000 document collection requirements submitted to the War Department, Department of War, to be used for the war to 1945.

Small Plants—Summary of a 100,000 document collection requirements submitted to the War Department, Department of War, to be used for the war to 1945.

Butylene Diverted From Rubber to Gas

Diversion of 400,000 barrels of butylene from the synthetic rubber program to the production of approximately 1,000,000 barrels of aviation gasoline has been directed by Wendell Dewey, rubber director, in response to calls from the War Department for more aviation fuel.

The butylene will be channeled to high-octane gasoline during July and August, Dewey, emphasized, however, that the diversion will not result in the building of "one

less tire per the use of one less barrel of synthetic.

Labor Problem—He pointed out that manpower problems rather than a lack of materials affected the current restrictions on the supply of tires and other rubber products.

Uncertainties Delay Vets' Job Program

Distribution of the federal announcement of the new being formulated by the National Aircraft War Production Council as an effort to get 2,000 engineers to replace draft losses has been postponed because of uncertainties surrounding the future of the industrial program.

Despite postponement of the publication, the veterans' employment program of the Council is being handled on the basis of applications from veterans who have heard of the work from various sources. These applications are being advised, when possible, where to seek employment of the type for which they might be fitted. Most of the applicants are engineers, who were particularly sought.

Veterans' Aid Centers—Meanwhile, aircraft companies are offering services of experienced personnel to veterans' aid centers in their cities, working to aid in readjusting returning veterans to civilian life.

Uncertainty in the outlook program is acting as a deterrent to a more comprehensive program, it was learned, and some indication of a definite schedule is ascertainable, employment plans probably will remain as a day-by-day basis.



EASTERN REGIONAL TRAFFIC MEN MEET:

At the quarterly meeting of the Eastern Regional Traffic Committee of the Aeronautical Chamber of Commerce, held at New York, seated, left to right: Frank Barroaght, Curtis-Wright; Elmer Dore, Bell Aircraft; Richard Donahue, Pratt-Whitney; Capt. W. R. Pearson, Traffic Division, New York, Headquarters AAF; Harry Brinkley, traffic manager, ACAA; P. Chester Heiler, Curtis-Wright, general chairman; Lt. Col. M. F. Sweeney, regional air priority officer, LaGuardia Field; Capt. C. S. Baxter, Traffic Division, Headquarters AAF; J. M. Robert, Cur-

tis-Wright; R. A. Falkman, Pratt-Whitney, Inc., standing, left to right: Joseph M. Shepperson, Railway Express Agency; H. L. Stevens, Consolidated Value; C. J. Lederer, Railway Express Agency; B. J. Crosby, Railway Express Agency; C. D. Flowers, Jacobs Aircraft Engine; R. J. Howard, Bendix Aviation; J. T. Price, Sperry Gyroscope; J. J. Brownson, Sperry Gyroscope; R. J. Gorman, General Aircraft; C. W. Tughe, Chance Vought; R. L. Kusselton, Bendix Aviation; J. S. Millard, Kellie Aircraft; J. J. Abruzzo, Curtis-Wright; C. G. Schlauch, American Bosch.

Air Bills Grounded Till After Election

Aviation assistance in general show negligible progress in Congress before election.

Aviation legislation as a whole made little progress in Congress before the recent, which probably will last until after the elections.

The Lee Bill, drawn by the California representative is currently in the Civil Aeronautics Authority as an independent agency and to cover all forms of aviation activity, and in the rules committee because of heavy opposition from various elements in aviation, notably state officials and private flying groups.

McCormack Bill Pigeonholed—The McCormack Bill, similarly destined to set up a new civil aviation authority and to establish a principle of eleven instrument for international air transport, also was pigeonholed in committee.

The action of the Supreme Court in upholding Minnesota's levy of taxes on all of Northwest Airlines equipment on the grounds that it is based in that state led to passage of a bill directing the Civil Aeronautics Board to study the effect of multiple taxation of air commerce.

WASP Controversy—The greatest controversy was that over the

AAP-sponsored bill placing WASPs in the Army, and that bill finally was reported after a House Civil Service Committee report scored the cost and value of the program, particularly in relation to the men pilots available from cancellation of the Army flight training program.

CFT Act Extended—The Civilian Pilot Training Act was extended at the last minute for a period of two years without appropriation.

Probably the most important single bill affecting all branches but particularly applicable to the aviation manufacturing industry was the Contract Termination Act, which provides for speedy settlement of canceled contracts and will permit rapid reconversion.

The Army glider program, more or less of a makeshift at times, now forward a bill with the authorization of flight pay to glider personnel.

Airport Master Plan—The CAA Airport Master Plan will go to Congress under terms of a resolution asking a report as the basis for legislation on airport appropriations, but action can hardly be taken before the next Congress convenes in January.

Surplus aircraft will be dealt with in a bill giving Congressional sanction to the Surplus War Property Administration, which now is operating under executive order

with the unspoken intention of Congress. Central disposition is to give Surplus War Property Administration W. L. Clayton broad powers to deal with a flexible situation.

MacArthur Forms Far East Air Force

Creation of a new air arm to be known as the Far Eastern Air Force, with headquarters in Australia, has been announced by Gen. Douglas MacArthur, and its main mission will be the Philippines, the East Indies and such adjoining lands as British Borneo, although no mention was made of its scope. The new force will consist of the Fifth Army Air Force, which has operated in Australia and New Guinea, and the 13th Air Force, which has been through the Solomon campaign and into the Rabaul and Kavieng outposts.

Headed by Kenney—Lt. Gen. George C. Kenney, commander of Allene Air Forces in this theater since 1942, will head the new force. The fifth will be commanded by Maj. Gen. Ross C. Whitfield, who has been in charge of the 5th Bomber Command since 1942. Maj. Gen. S. Clair Rivers, former commander of the Second Air Force in the United States, will head the 13th.



TWO-PLACE P-40:

Equipped by a fighter of *Phantom Tiger* fame, a two-place Curtiss P-40 is shown over the AAF tactical center at Orlando, Fla. Believed to be the only one of this design in existence, the two-place Warhawk was built from a standard stripped P-40 by technicians at the AAF/TAC air depot. It is used for training purposes and for important military personnel who need fast transportation.

Pressure Chamber Data Used on B-29

Results of altitude tests made at Wright Field is released after Superfortress raid on Japan.

The part some 180 soldiers and civilians in the AAF Materiel Command at Wright Field played in developing the pressurized cabin of the Boeing B-29 Superfortress, has been released by the War Department following the recent raid on Japan.

Under the direction of a former college professor, Maj. Henry N. Sweeney of the aero-medical laboratory, the technicians conducted approximately 200 experimental tests to show the effect of "explosive decompression" caused by the sudden release of pressure from the cabin, similar to that which would be caused at the bomber in combat was ridden with bombs.

Sargeants Take Tests — Maj. Sweeney was the first to prove he could take "explosive decompression" again and again, while all flight engineers used the B-29 crews as well as the chief engineer for the 38th Air Force, Col. Robert Beauford, also participated in the experiments as part of their training following a special study of pressurized cabins.

The experiments, running for a year and a half, involved both flight tests and tests in pressure chambers.

In making his first test, Major Sweeney entered a pressurized cabin inside a pressure chamber. Wrapping power sealed a round

opening in the cabin. Pressure in the cabin was kept approximately normal, while surrounding pressure on the chamber was decreased until it was equivalent to that in the atmosphere. Some scientists believed that the sudden change in pressure would cause serious injury, or even death. Sweeney believed the human body could take it.

Seal Broken—The wrapping paper was torn and broken with a screwdriver and air gusted from the cabin into the surrounding chamber.

Observers, through windows, watched Major Sweeney closely. His cheeks puffed as air gusted from his nose and mouth. His chest contracted as air was literally squeezed out of him. But he experienced no serious discomfort, and pulled his oxygen mask over his face to compensate for thin air. Many other experiments followed. First, "explosive decompression" in flight took place when a vacuum gun blades "blew out" like a bad tire, at 30,000 feet. There was no serious consequence.

Pressure Tests—Flight tests included parachuting the specially-charged cabin with test dummies while the plane was aloft. An officer and civilian observer in the plane felt a drop in temperature and saw a device fog within the plane that were attached.

The B-29 experimental group reports that the most rapid decompression is a result of puncturing the cabin is not sufficient to cause death. The aircraft suffered by disintegration and as a result of too extreme change in pressure within a very short time.

Riddle's Interest In Air School Sold

John Paul Riddle has sold his interest in Embury-Riddle School of Aviation, largest civilian aviation school in the country, and will concentrate on the expansion of the technical school of aviation he operates for the Brazilian Air Ministry at Sao Paulo, Brazil, and other foreign business. His interest has been acquired by John O. McKoy, Miami attorney, and his associates.

Operations at the Beantown school will be doubled within the next six months, and Riddle will continue to train American instructors at Miami in Portuguese and Latin-American countries for use in that school.

Headquarters in Miami—He will continue temporarily with Embury-Riddle until a new emergency set-up has been completed by McKoy, and working arrangements between the domestic and foreign schools probably will be maintained. Riddle expects to spend half his time in this country, and will maintain headquarters in Miami. McKoy has been co-owner with Riddle of Riddle-McKoy Aero College at Clearwater, Fla., and is vice-president and counsel of Embury-Riddle Co.

American Patented Robot Plane in '18

Robot planes have been known in the United States since the last war and consequently are neither new nor secret. The National Inventors Council has patented

at least two Americans invented self-propelled aerial torpedoes, similar to the German robot planes as long ago as the last war. Robert Hart Sweeney applied for a patent for an aerial torpedo of the airplane type on Apr. 18, 1918, and the patent was granted on May 23, 1935.

File by Kellogg—The other was Charles E. Kellogg, of General Motors Research Corp., now chairman of the National Inventors Council, who applied Aug. 25, 1919, for a patent on an aerial torpedo that is a self-propelled airplane capable of being launched from a ship and having control mechanism adapted to to direct its movement that it may be caused to travel over the desired path and then upon a predetermined objective. The invention was patented Apr. 5, 1925.

Lifting of Magnesium, Aluminum Ban Hints Better Metal Situation

Nelson's move to permit use of supplies where labor is available is interpreted as easing relaxation of restrictions in other categories.

When WPB Chairman Donald M. Nelson last week instructed WPB officials to review all orders banning the use of magnesium and aluminum so that manufacturers could fabricate the light metals into "essential end products" whenever manpower was available, he brought into the public question again the entire materials supply subject.

Although it has only been slightly by more than a year ago, many people have forgotten the confusion of the recent days when WPB's greatest problem was stretching to the danger point its small quantity of the critical materials—steel, copper, and aluminum. During that period, the public still might recall the offices of the members of the Requirements Committee, who, meeting almost continuously over industry's chairs, struggled to channel the night quantities of materials to the plants where they would do the most good.

Aluminum Favored—Then the aircraft program—and its twin, the components program—was the hot-baked subject in demand as more steel than gold, and in meetings of the Requirements Committee even ounces of the light metals were carefully bargained for.

New the picture has changed, suddenly and almost destructively. In the scrapyard of every aircraft plant in the country are piles of secondary aluminum. Army and Navy officials have stopped talking about what to do with it. Plant managers look furiously for markets for their scrap. Although aluminum remains one of the three "uncontrolled" materials carefully regulated by the CMP plan, it is no secret that there are many materials more scarce.

Supplies Abundant — Even Mr. Nelson acknowledged that "with the exception of corking, fuel and nitrogen, stocks of most materials are plentiful for producing it are now more than sufficient for war needs."

As critical materials shift from a scarcity to a surplus, new problems are introduced. Right now, disposal problems are almost as acute as the aluminum shortage

was a year ago, and the severity of this problem is currently being tested by Republic Aviation Corp., whose surplus stocks of aluminum were recently frozen by Metals Reserve Corp.

Not all the facts of Republic's disposal program are yet known, but the latest reported question is the company has engaged considerable success in its disposal operations up to this time. The company some time ago reported that its sales had passed \$100,000, and it was later reported that when two weeks after issuing a catalogue of steel airplanes, two-thirds of the stock on hand had been moved.

New Inventory—In brief, Republic officials will report that the surplus inventory with the Aircraft Scheduling Unit, where, in turn, they will be turned over to Metals Reserve Corp. Warehouses will then be procured and materials will be sent through Wright Field to Republic. Materials ordered in this manner will be shipped to the warehouses on government bills of lading.

While this plan is designed as serving as a piston pump for the disposal task, the same situation may very soon face other aircraft plants throughout the country. Republic is not the only plant to have large aluminum stocks on hand, since other companies have accumulated quantities as a result of setbacks and design changes. The latter frequently brings about the accumulation of surplus.

Steel Tightens—That even as Republic pondered over its surplus aluminum stocks, war requirements needed to fluctuate and new and unexpected demands arose. Steel suddenly became tighter, and WPB literally acknowledged that the steel situation looked dark.

The sharp shortage in the steel picture was in about steel, which is now being demanded in large quantities for use in tanks and heavy artillery shell cases. These stepped-up requirements, plus the change in production which normally follows extremely warm weather, have made the steel situation more perilous than at any time

since the beginning of the war.

These two opposing problems are now giving industry a taste of what many production leaders have predicted all along—that for some time before reconstruction actually comes there will be sharp fluctuations in military requirements and, pending stability, there will be both abundance and want.

Navy Taking Over Brewster Johnsville

Navy announces that it is taking over the Johnsville (Pa.) plant of Brewster Aeronautical Corp., as an aircraft modification and engineering center and will begin operations this fall. The project is to provide jobs for about 2,500 of the 3,500 employees.

It is understood that the Navy intend taking over of the plant because of the condition of the runways there, and there was talk for a time of Army ordnance taking over the operation as a shell-loading plant.

PHC — The Johnsville plant will be operated as an adjunct to the Naval Air Materiel Center at Philadelphia. Runways at the airfield adjoining the factory—built by Defense Plant Corp. at a cost of \$4,000,000 in 1941—are reported to be in bad shape.

There has been conjecture in aviation circles that the Navy hopes to make the Johnsville plant a permanent plant for the production of aircraft to be sent to the Philadelphia Naval aircraft factory. It is approximately 20 miles north of Philadelphia and a new \$4,000,000 permanent housing project adjacent to the plant is under construction. It is expected to accommodate 1,300 families.

Ace's Specifications For Post-War Plane

Maj. Richard T. Bong, ranking Pacific ace with 29 Jap planes in his credit, gives us the first sane bit of the personal airplane that pilots of fast combat warplanes will want to buy after the war.

"It should be a four-engine aircraft, and F10 be fitted with a cruising speed of about 320 miles per hour. I'd like it to be amphibious. It should have a range of 900 miles. Landing speed? I have not thought much about that—it is not a problem. I would like to be able to buy it for around two thousand to twenty-five hundred dollars."

CPT Extension Keeps Civil Groups In Control of AAF Primary Training

Another measure expected to be introduced if present two-year bill does not carry over into peacetime.

By BLAINE STUBBSFIELD

Extension for two years of the Civil Pilot Training Program, by act of Congress, is a strategic move by the civilian aviation group in its long contest with the Army and Navy for control of military primary training.

Civilian interests, represented by Senator Pat McCarran, who wrote the Senate bill, wanted a five-year extension. The House Interstate and Foreign Commerce Committee cut it to one year, and the Joint Senate-House conference committee compromised on two years. In case this two-year period does not reach into peacetime, another extension bill certainly will be introduced when the CPT program again expires, June 30, 1948. Supporters wanted the CPT act kept alive as a trading point and as a nucleus around which to build a permanent program.

Held Up in Committee—The House Commerce Committee heard up the CPT extension and cut it to one year on the ground that the pending Lee Bill moving the civil air law, months ago knocked out of the House Rules Committee, provided for civil aviation training. Civilian flying groups, holding small hope for immediate action on HR-2428, stormed the bill in favor for action now on CPT, and got it.

Civilian groups referred to are the Civil Aeronautics Administration, National Aeronautic Association, National Aviation Trades Association, Aeronautical Training Society, the Federal Aircraft Council of the Aeronautical Chamber of Commerce, Association of American Colleges, and others. These organizations, working with various groups of aviators, are not only won the battle for CPT, but they will have the advantage in future attempts to secure on the Army and Navy air arms.

Advantages—Their advantage is that the military services are not allowed to talk about their power plans, though they certainly

have them. Probably the air forces, whose training requirements dwarf those of naval aviation, have no official post-war training policy. But individual AAF officers have ideas on the subject and are pushing them around.

Ideally, the Army would like to have permanent selective service in peacetime, and the Air Force would like to pick their men for processing through great West Points of the Air, like Randolph Field, all on a purely military basis. In building a strong reserve of air crews which could meet any emergency. At least a year of each man's time, preferably two years, would be taken for military service between high school and college. Failing to get that, air forces will take all the control it can get over semi-military air training in the country's schools and colleges.

Depends on Policy—The outcome depends much on whether the country goes in for continued military preparedness, whether national selective service is adopted, and on the extent to which Congress tightens its grip on public safety.

Majority opinion seems to be that a popular swing to economy, and to pacifism, and especially to promotion of the airport as a utility, will give the civil groups a good chance to gain their ends. On the other hand, the country, having had two bitter lessons in the results of complacency, the armed forces will get reorganized. This could very well result in a compromise, with fixed base operators and professional flight schools processing the men, under close regulation and supervision by the Army and Navy air arms.

Civil Move Likely—Almost certainly, legislation will be proposed by the civil groups. A fair application of what its provisions will be is seen in recent articles in the National Aeronautic Association's magazine. These articles point out

Asks Extension W. L. Jack Nelson, aviation editor at W. A. M. Darden, who recommends that the Joint Aircraft Committee be constituted after the war in order to coordinate the Civil Air Training Program.

that civil air training produced losses of aviation cadets when the Army was helpless to do so in the emergency; that such a successful institution should be continued; that extensive facilities installed at colleges should be utilized in the country's defense; that aviation training centers should be broadly scattered and easy of access.

Jack Nelson of CAA recommends that the Joint Aircraft Committee, on which Army, Navy and CAA were represented, be constituted after the war to coordinate the civil air training program. He believes 150,000 to 200,000 pilots currently in process in 1,000 to 4,000 schools would be desirable.

NAA Training Program—Citing CPT history, largely forgotten in the turmoil of war, the NAA magazine recalls that in 1939 National Youth Administration funds trained 300 students in primary flight. In the same year, CPT was authorized by Congress and received an appropriation of \$4,000,000. War Training Service succeeded CPT—a mere change of name—on December, 1941.

Gen. H. H. Arnold, chief of the Air Force, said early in the war that AAF could not train 3,500 pilots a year. CPT, later WTS, was the rule up to 12,500 a year, then to 20,000, and on up. Total pilot output was 373,056. Total cost of the program was \$700,000,000. By March, 1944, 11,329,993 hours had been flown by CPT students, cadets, instructors, and air crews.

They wouldn't fly without them...



A bracelet of cat's-eye stones collected from a South Sea lagoon, hung around the "dropping" hand of a bombardier through twenty months of combat flying.



On every mission a sentimental farm boy, now a tail gunner, carried a small sack of the good earth from the farm back home.

A tail feather pulled out of a boson head on Midway Island decorated the flight cap of a navigator on more than 90 missions in the South West Pacific.



Ethyl antiknock fluid goes along with fighting planes powered by U.S. made gasoline. It goes into practically every gallon of fighting grade aviation fuel—which is one reason why our fliers not only have the best gasoline but plenty of it.

ETHYL CORPORATION

Chicago Building, New York City



ETHYL is a trade mark name



JUNKERS JU-87 IN NEW ROLE:

The Junkers JU-87, retired from Germany's first line strength some time ago, has been rejuvenated and modified for use as an anti-tank plane with two large-bore cannons mounted under the wings.

used in our amphibious operations can be applied to several situations.

Rescue Use of Airborne—Airborne forces and particularly glider forces can be used in the effective to exploit breakthrough by armored and motorized columns or to augment flanking operations where jamming can be achieved through the rapid reinforcement of the flanking force. Glider troops and their equipment can be landed in the rear of the enemy lines thus are being attacked frontally, to seal the rear against reserves. Small glider forces can be moved into the enemy's lines of communication by night landings to raid, to destroy, and can be evacuated through the use of pick-up equipped tags.

On the defense, the use of airborne strategic reserves capable of moving many hundreds of miles in a few hours' notice should ease the field commander's task.

Counter Measures—If the enemy creates a breakthrough, glider forces can either move in to contain him or land behind him to seal off the breakthrough. Airborne is an equally effective counter against flanking operations.

The only real defense against enemy airborne forces are alert airborne forces of our own that can move against any enemy "airhead" before it can become firmly established.

Service Use—Glider and pick-up tags have tremendous service uses. First of all, gliders have been used to rush emergency supplies of ammunition and food from England to the fields directly behind our forces in France. More such valuable handling tags were shown by being able to land the gliders almost on the front lines. This technique of air movement of emergency supplies directly from depots to the combat units with-

out a number of intermediate handlings should prove very valuable in the future.

There are a number of mobile service units that can be mounted in gliders to be moved from task to task over wide areas by pick-up tags. A pick-up landing will indicate the work that can be done with a relatively few gliders and even smaller number of pick-up tags:

- Mobile field dressing station
- Evacuation unit
- Aircraft repair shop
- Glider repair shop
- Ordnance repair shop
- Motor vehicle repair shop
- Communications repair shop
- Airborne engineers equipment
- Mobile command post
- Mobile photographic station
- Mobile field kitchen
- Mobile aircraft search station
- Mobile antiaircraft unit
- Mobile shower station
- Mobile decontamination station
- Mobile shoe and/or clothing repair shop
- Mobile refrigeration unit

Our use of the glider for military purposes has only begun. It has been successfully employed in the defeat of the enemy at a casualty cost that would not otherwise have been possible and if applied with imagination to future operations the glider should be very effective in spending our victory.

NAVIGATOR

Dutch Plane Toll

The Netherlands Indies army air force has continued the fight against the enemy, their North American B-25 Mitchell bomber squadron having dropped more than 468,000 pounds of bombs on Jap bases in the last three months. The squadron claims 4,000 tons of enemy shipping sunk and additional thousands "probably sunk."

Closed Schools to Store RCAF Craft

Royal Canadian Air Force training stations being closed this year are to be used as storage depots for aircraft equipment, the 28 schools involved to be turned over eventually to the Wing Assets Corp. set up by the government to realize on wartime equipment.

Storage Depots—It is expected in Ottawa that these centers will be placed under the Department of Transport for later use in development of civil aviation in Canada. Meanwhile they will be used as storage depots.

RCAF in Iceland

A Royal Canadian Air Forces Canada flight base squadron moved as a completely self-contained all-Canadian unit into Iceland last January, the first time a squadron went overseas complete. It is located at Ottawa.

Ground crew required for immediate maintenance of aircraft was flown in and the rest of ground personnel and equipment were packed into two 504-ton wooden ships of the RCAF marine section, backing the worst storms in the last five winters. The squadron is now making submarine sweeps and doing day patrol work under Wing Commander C. G. W. Chapman.



RADIO-EQUIPPED RAFT

Photo shows one-man-type life raft in a recent coast-safety demonstration at Annapolis, Md. By turning the crank on top of the "Johnson girl" emergency transmitter, the soldier is sending out on SOS.

New Hydraulic Wiper Motor

WEIGHS 1 POUND, SMALL, POWERFUL, EASY TO INSTALL

A complete motive unit, easily tied into the airplane hydraulic system, this motor produces ample power for the operation of windshield wiper blades across flat, curved or compound curved glasses. The motor has high torque, permitting a blade speed up to 400 strokes per minute during flight. Contributing to the efficient design of the new unit is our experience, gained from pioneering and producing the wipers now used by the U. S. airlines and air forces of the Army and Navy.

The **Marquette**

METAL PRODUCTS COMPANY
Cleveland 10, Ohio



PERSONNEL

J. Earl Seidenhafer, assistant manager of Washington National Airport, is leaving government service to join Panavia, Eugene and Argonne Corp., at Bismarck, 394 Seidenhafer started as a mechanic at old



Seidenhafer

Harvey Field about 1934, and has been prominent in private flying efforts for many years through the Washington Air Derby Association and in 1938 received the Derby award for doing most for flying that year. In 1940, he organized and installed the motor vehicle inspection program of the District. He became operations manager of the National Airport in 1941, later becoming assistant manager.

Charles V. Mooney has joined Aerodrome Corp. as contract representative. He was formerly with John Hancock Mutual Life Insurance Co.

John Howard Fries has resigned as manager of the economic development department of the Aeronautical Chamber of Commerce to enter private practice as an economic consultant.

Recent changes at the Navy's Bureau of Aeronautics and Office of the Deputy Chief of Naval Operations by Air include detachment of **Cordell William S. Sussner**, who has served as aide to the Deputy Chief of Naval Operations for Air, assignment of **Cordell Henry Sussner** to aviation planning division, base facilities section; and **Cordell John P. Rhee, Jr.**, to aviation training division, flight training school. **Cordell Jack W. Thompson** has been detached from the Naval Air Transport Service, operations section and **Capt. Charles J. Maguire** has been detached from

aviation planning division, lighter-than-air section.

Harry McKay, test pilot and flight captain at Consolidated Vultee Aircraft Corp., Louisville division, has been appointed chief of flight and field operations, replacing **Howard Kinkadee**, who has gone to the Allentown division. McKay has flown for Mid-Continental Airlines and for Transcontinental and Western Air, Inc. He was pilot instructor for TWA's four-engine school.

W. J. Blomhard, general manager of Aeroproducts, has been elected president of the Dayton Chamber of Commerce. He was named a director for a two-year term. Blomhard has just completed his second term as president of the Dayton Engineers Club.

Reginald Vance Albee senior, of the Brazilian Air Force and the Joint United States-Brazil Defense Commission, has returned to Washington accompanied by two civilian employees of the Brazilian Ministry of Aeronautics, **Irma Emerica Sene Gedeon** and **Blah de M. Masson**.

William A. Smith (photo) has been appointed president and general



manager of TACA Aeronautics Agency, Inc. to fill the vacancy created by the resignation of **Robert L. Reed**. Reed will remain vice-president and general manager. Smith was previously general operations adviser and chief engineer for the TACA system. Named to his present position by the board of directors, he will supervise activities representing in the U. S. the TACA companies headed by **Llewellyn Trott**.

Froya B. Gordon has resigned as vice-president and general manager of Wright Aeronautical Corp. and will be succeeded by **G. M. Williams**, senior vice-president of Curtiss-Wright Corp., with whom Gordon has been working for more than a year in preparation for this move. With this change, the executive administration of Wright Aeronautical will be carried out by **Williams** and **Philip B. Taylor**, vice-president and assistant general manager of Wright Aeronautical Division. Gordon has been with Wright since 1929, when the company was merged with the Curtiss interests. He went to Pittsburgh as



HEADS AERONCA:

John W. Friedlander has been named president of Aeronca Aircraft Corp., Middletown, Ohio, succeeding Air broker, **Carl Friedlander**, who was elected a vice president. The new president was formerly executive vice president. Aeronca also announces appointment of **E. S. Sutherland** from vice president to executive vice president and election of **A. M. Helms** as secretary-treasurer. Helms formerly acted as treasurer. **E. M. Waldman** continues as vice president and director of purchases and **Al Bennett** as director of sales. **John Friedlander** is an experienced pilot flying his Aeronca Chief for business trips.

secretary and treasurer of the company, was made vice-president in 1933 and vice-president and general manager in 1939.

Major Lloyd D. Marshall, executive officer, public relations section, Army Air Forces Materiel Command headquarters, has been promoted from the rank of captain. Before being transferred to Wright Field, the Major Marshall was public relations and special services officer with the AAF Training Command at Dayton. In civilian life he was active in chapter enterprises in California.

J. C. Brewer, formerly chief of the rates section of the main and subcommittee of the economic bureau of the Civil Aeronautics Board, will become assistant to the vice president of National Airlines, Inc. in matters relating to finance and development. He was head analyst in the studies and research section of the main division of CAB, while the overall contract between the carriers and



H-1021
PATENT APPLIED FOR
Approved by A.S.A.

Puts planes in the air faster

Designed and engineered by Hartwell, this new inspection door latch, H-1021, can move as much as 20 pounds in the inspection of a single plane. It starts in the inspection door, and fits flush with the outer surface. Weight less than 15 oz.

The new Hartwell latch has been approved

for use on aircraft by the Army Air Forces. Application has also been made for Navy approval. The latch can be installed in a standard Army Air Force catalog, shown in print 4203333. It consists of four parts: trigger and bolt, made of light gauge steel, aluminum bracket, and two springs.



Front view of Hartwell latch installation



Back view showing latch in open position

Can be used on inspection doors of any size or shape

Because of its design and construction, the Hartwell door latch can be used with metal, plastic or plywood of varying thicknesses, and on inspection doors of any size or shape. It can also be used without a hinge, where

multiple latches installations are employed, as indicated above.

The number of latches used per inspection door depends upon its size, shape and load and whether or not a hinge is used.



Press and the Door Flies Open!

Playslip pressure on the trigger of the Hartwell inspection door latch releases the bolt, permitting the door to pop open. Pressure on the bolt locks the door in place. It eliminates the formerly slow, tedious removal and replacement of inspection doors.

Single latches for 772 different aircraft production parts and tools

HARTWELL
AVIATION SUPPLY COMPANY

3417 Cassin Road, San Antonio, Texas
Dallas, Texas • Detroit, Mich. • Kansas City, Kansas

400 an hour!



1. Work is put in place starting cycle.
2. Fixture moves into cutting position.
3. Machine slide completes cutting stroke.
4. Fixture returns to out stop.
5. Main slide returns ready for next cycle.



It's the machine, the broach and the weaving design engineers who made the pertinent contribution to production.

APOINTE Machine Tool Company

SULLIVAN, HARRISON, AND D. A.

THE AUTHOR'S INTEREST AND LEADING WORKS: METERS OF BROCHES AND BROCHING MACHINES

the Army was being developed. He was sent to the Air Transport Command to assist in solving accounting problems in the distribution of common costs between commercial and contract services.

Don V. Seavers, assistant to the president of All America Aviation, Inc., will have charge of the Washington office being set up by feeder Airline Associations. Seavers is assistant secretary-treasurer of the as-



vention of pick-up and hooker lines. He has been in evasion for 19 years. He learned to fly in World War I. Since that time he has been a barnstormer, air show pilot, instructor, airport manager and has been active in airplane sales. He joined All American in 1938.

D. E. Hyde has become chief of Industrial Relations for the Tension division of Consolidated Valve Aircraft Corp., replacing R. M. Weber, who has been transferred to the Allentown division as chief of Industrial Relations. Hyde has been head of the employees service department.

Arthur E. Bauman, Associated Press reporter for nine years and a war correspondent, is



tans in Seattle and will cover the territory between Billings, Mont., and the West Coast. When Barger left the Pacific to return to this country he received a special letter of commendation from Maj. Gen. Nathan F. Twining, commander of aircraft in the Solomon

office of Air Transport Association, representing U S and Canadian airlines. Abreu succeeds Vase Vasquez, American Airlines director of personnel.

Ralph A. Bard, Assistant Secretary of the Navy, has been appointed Undersecretary, replacing the now Navy Secretary James V. Forrestal. Bard has been in the financing and development business, concentrating on small firms. From 1934 until he became a civilian leader of the Navy, he was president of Ralph A. Bard and Co. He has acted as president and director of several other investment firms in Chicago.

Robert W. "Bibi" Beala, resident representative for American Airlines at Douglas Aircraft Co.'s Santa Monica plant, celebrated his 55th birthday anniversary with the airline Beala, who holds one of the earliest pilot's licenses issued by the CAA in 1929, has worked with the development of commercial airlines in this country, Canada and Great Britain.

Lois G. Neide, who has been associated with Curtiss-Wright Corp. since 1938, has



C. L. Turell, vice president of Fairchild Camera and Instrument Corp., New York, has been given the added duties of secretary of the company. The former secretary, James S. Ogburn, Jr., is now in the Army.

1st Lt. Col. Robert F. Sox, who has been on leave since 1942 from his duties as president of Continental Air Lines, has returned to his executive position with the airline. Sox has been awarded the wartime status of

an Army officer, due to physical disabilities incurred in the line of duty while serving with the Air Transport Command at Maxwell Field, West Palm Beach, Fla.

Heath Howard, president of Hawthorne School of Aeronautics and Astronautics, El Segundo, Calif., will



SURPLUS AIRCRAFT HEAD:

Pictured is Lieut. Col. William B. Harding, whose appointment as director of the Surplus War Property Administration's Aviation Division was announced in last week's AVIATION NEWS. He is on military detail from the Army Air Forces at present.

selected as the outstanding young business man of South Carolina by the Junior Chamber of Commerce

L. A. Gossage, formerly executive assistant to President Don P. Smith, has been appointed treasurer of Inlandair Aircraft & Engineering Corp. W. C. Bessie, formerly assistant secretary-treasurer, was named secretary. These two executives will assume the duties of former secretary-treasurer L. B. Gossage, who recently resigned.

Fred Dawna has just completed fifteen years' service with Pan American Airways. He



Harry McKay has been appointed chief of flight and field operations of the Louisville Division of Consolidated Vultee, succeeding H. M. Kinschler, who has transferred to the Allentown Division. Employed by Consolidated Vultee since 1942, Mr. McKay was formerly with Mac-Cormick Airfield, leaving there to go with TWA as an instructor in their four-engine school in Albuquerque, then to Consolidated Vultee, San Diego.

Trail Blazing in the Skies

PIONEERING NEW METHODS



SAVING HOURS IN METAL FORMING OPERATIONS —

Another recent development speeding production at Goodyear Aircraft Corporation is a new universal chuck for gripping materials in metal working equipment. Conventional chucks require two to three hours for disassembling and fitting with different, expensive machined jaws every time a different shaped part is to be machined. The new Goodyear chuck requires only a few minutes for this change-over — and sets jaws cut from an inexpensive material. Thus the productive time of these important metal forming machines is increased by several hours a day, and time-consuming jaw machining operations are practically eliminated. This new, fast-action chuck is, therefore, an important contribution to America's aircraft program. It's one more example of Goodyear pioneering and leadership.

HOW GOODYEAR AIRCRAFT CORPORATION SERVES THE AIRCRAFT INDUSTRY

1. By constructing subassemblies to manufacturers' specifications.
2. By designing parts for all types of airplanes.
3. By re-engineering parts for quantity production.
4. By building complete airplanes and airships.
5. By extending the facilities of Goodyear Research to aid the solution of any design or engineering problem.

BUILDING PROVEN AIRCRAFT



1,000 CORSAIRS IN RECORD TIME — In little more than a year after completing its first Corsair, Goodyear Aircraft Corporation had produced a full thousand of these crack fighters. This production of a new type of ship was achieved in a completely new plant, and the battle-front record of the Goodyear-built Corsairs used by the U. S. Marines shows how well the job was done. The ability to mass volume production so quickly and so competently stems from Goodyear's thirty years' experience in aeronautical engineering — a background assured with many notable developments in aircraft design and fabrication that make Goodyear one of America's foremost names in aeronautics.

BUY
WAR BONDS
BUY
FOR KEEPS



ON COURSE!

You may have to explain the picture to any flyin'. It is not an airplane. Capt. Albert "Pinky" Steinback, veteran United Air Lines pilot, is at the controls. He is approaching a Pacific Ocean port, with visibility zero—in the Link Trainer.

Steinback says this has already 1,800 feet, air speed 160 miles per hour. The rhythmic dash of the Morse "A" in his earphones is merging smoothly now with the dash-dot of the "N" signal, which tells him he has found the "on-course" signal. He is on the beam.

Veteran "Pinky" Steinback knows he has to follow the beam to the "core of silence," a dead spot of radio. When the beam beam dies off to silence and then resumes, he has his exact location with respect to the airport. Following instructions from the airport control tower, he now is prepared to land.

Thus United Air Lines pilots practice approaches to distant ports in the Link—without leaving the

ground! Through training in instrument flying has served United's pilots well—on 880 Pacific Ocean crossings in 1945, flying into and out of airway fronts. United crews also chalked up 2,400 military flights in the Western Hemisphere last year, besides flying the company's regular routine-wide passenger, mail and express schedules.



Capt. STEINBACK looks at instrument flying, looking in the Link of United Air Lines Link Trainer, located under the watchful eye of Link Director Eugene Ellis.

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AIRCRAFT PRODUCTION

Post-War Research Committee For Armed Forces Named

Charles E. Wilson heads group formed to plan continuous development of aircraft and other equipment.

The full list of service members of the new joint research committee, appointed to work out plans for continuous technical development of aircraft and equipment for the armed services, was announced last week.

Charles E. Wilson, vice-chairman of War Production Board and chairman of Aircraft Production Board, is chairman of the committee, which has held its organization meeting.

For the Army, in addition to Brig. Gen. William F. Tompkins, director of the Special Planning Division of the General Staff, will be Maj. Gen. Oliver P. Echols, assistant chief of air staff, research, maintenance and distribution; Maj. Gen. Albert W. Waldron, chief of requirements section, Army Ground Forces; and Brig. Gen. Thomas D. Weaver, director of industrial demobilization, Army Service Forces.

Navy—For the Navy, in addition to the coordinator of research and development, Rear Admiral J. A. Furer, and Rear Admiral E. L. Cochran, chief of the Bureau of Ships, Rear Admiral G. F. Hume, Jr., chief of the Bureau of Ordnance; and Rear Admiral D. C.

Ramsey, chief of the Bureau of Aeronautics.

Civilian members, listed last week, are Dr. Karl Compton, MIT president, Dr. Jerome Korschner, NACA chairman, Dr. F. B. Jewett, Bell research chief, and Dr. M. A. Tuve, of Carnegie Institute.

Objective—Ranking officers of the services have been frankly concerned with the problem of research following this war and the naming of this long-named committee is one phase of an effort to solve it while the examples of this war are available.

Once the committee reaches some conclusions and draws a presentation, the matter will be taken to the Warrent Post-War Military Policy Committee of the House and a long-range program will be drafted.

Canadian Plant Busy

Port William plant of Canadian Car & Foundry Co., Ltd., will be in continuous production during 1946, according to Manufacture and Supply Minister C. D. Howe. The plant is making Canadian Molochers for the U. S. Navy and employs about 8,000 workers.

8 Plane Firms Use Super-Aluminum

At least eight aircraft manufacturers are now using a new super-strength aluminum alloy in the construction of experimental planes, it has been disclosed by ALUMINUM Co. of America, which developed the alloy known as "505."

It is intended primarily for use in long range bombers and fighters and is said to have a compressive yield strength twice that of common structural steel and tensile strength greater than that of any aluminum alloy now used in our airplanes.

18 Years' Research—Dr. Francis C. Tracy, Alcoa's director of research, said the alloy is the result of 18 years of research by the company's metallurgists, and reported it is approximately 90 percent stronger with magnesium and zinc the major alloying ingredients. It is in quality production is the company's mills.

Brewster Reconverts

Brewster Aeronautical Corp. is out of the aviation picture for the duration and is reconvertng its Long Island City plant to the manufacture of various civilian goods.

With substantial quantities of aluminum and other materials in stock, Brewster is understood to be awaiting a go-ahead signal from the WPB before launching manufacture of kitchen utensils and the aluminum exhaustors Equipment purchased for Brewster by the Defense Plant Corp. is being returned.



New Joint Research Group Meets: Photographed at the first meeting of the new post-war research committee are, left to right: Rear Admiral J. A. Furer, coordinator of research and development, Dr. F. B. Jewett, president, National Academy of Sciences,

Charles E. Wilson, vice chairman of War Production Board and chairman of the newly formed committee; Dr. J. C. Hunsaker, chairman, National Advisory Committee for Aeronautics; and Maj. Gen. O. P. Echols, Assistant Chief of Air Staff.

Test Flights Near For Landgraf Copter

Novel engineering features, advanced streamlining of experimental model arouse interest in pending report

By SCHOLER BANGS

Test flights of the Landgraf helicopter, due soon in Los Angeles, will command nation-wide interest among engineers, manufacturers, and a "topper-conscious" public in view of original aspects of the project.

It is characterized as the first helicopter to show full inherent stability and "airplane" responsiveness to control, if flight tests confirm engineering predictions and test stand results.

Retractable Landing Gear — It will be the first helicopter to incorporate in the prototype model retractable landing gear and complete streamlining to obtain in test flights a full evaluation of performance characteristics, including speed and operating costs, that will indicate performance to be expected of subsequent larger, commercial models.

For the first time, engine power will be transmitted to rotors by tension rod linkage of engine driving disks with driven disks attached to rotor hubs.



Interest in Rotor Blades: Directional control of the Landgraf helicopter will be aided, effected by cyclic operation of airfoil at the tip of the rotor blades.

Directional control will be unique, effected by cyclic operation of airfoil on rotor blades.

No Vibration — In a pre-flight test stand demonstration of the helicopter's driving mechanism and rotors, conducted by AVIATION NEWS by Fred Landgraf, designer and president of Landgraf Helicopter Co., complete absence of vibration at all speeds, including full power, was noted.

Landgraf's driving mechanism, believed to be the first practical ap-

plication of the principle, discloses its prime purpose in eliminating rotor backlash and torsional deflections that would attend employment of a torque tube drive and would prove hazardous in the helicopter's use of "hushang" rotor blades rotating upon a common plane.

Weight Reduced — Other advantages offered for the tension rod drive are an appreciable reduction in materials weight and elimination of driving gears on rotor hubs.

"Driving" and "driven" power disks operate in parallel planes and are connected by sets of 12 carbon steel (145,000 PSI) rods set at an angle of 25 degrees from horizontal and spaced evenly around the periphery of each disk. The 15 rods on each disk are under tension except at the moment when each rod approaching the phase of tension reaches dead center, at which time five rods are under tension. Each rod summer increasing tension to a 90-degree position and goes out of action 90 degrees later. The maximum tension on any rod is 400 pounds under full power.


Landgraf discounts as "exaggeratedly remote" the possibility of drive failure that might endanger synchronization of the 16-foot rotors, mounted on hubs separated by a distance of eleven feet.

Center-Rotating Rotor — A major reason for Landgraf's location of rotors less than a rotor diameter apart is to reduce the mass and weight of rotor supporting areas and still preserve sufficient strength to absorb gyroscopic loads imposed by rapid withdrawal of rotor spars to rotor hubs.

The rotors move in opposite directions, blades moving forward in the arcs above the fuselage, eliminating the need for a tail rotor for torque compensation.

Rotor blades are curved as round, hollow, tapered spars of birch built integral with rotor hubs and designed to carry the bending moments at the hubs. The blades are constructed of wood spars and ribs covered by a 1/32" plywood skin shaped to the contours of an NACA 0015 airfoil. They are attached to spars by metal strips, which serve also as pitch adjustment lugs that are fixed through a series of small bell cranks and rods attached to the spar to vary the blade pitch from minus 24 degrees to plus 124 degrees automatically for all 15 rods.

Rotor Speed — Landgraf estimates that the experimental model's 250



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- Pistons Rings for Oxygen Compressor
- Pins for Oxygen Compressor
- Pistons for Air Compressor
- Piston Rings for Air Compressor

LANDING GEAR PARTS

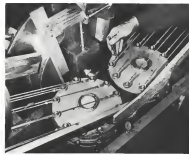
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CANADIAN PLANT, TORONTO, ONTARIO



Tension Rod Linkage: Engine driving disks of the new Landgraf helicopter, with the tension rod links used to drive the rotor blade disks of the unique type helicopter. Designed by Fred Landgraf, former Douglas executive, the new helicopter will be test flown soon.



NORTH AMERICAN'S NEW FILING DESKS:

Photo shows filing desks designed by production and planning files workers of North American Aviation, Torrance, Calif. Desks, as Dallas Clerks in these octagons handle three times the amount of filing previously possible. Seated at standard desks, each clerk could reach no more than six filing trays from one position. In these desks she can reach as many as 16 card filing trays with a minimum expenditure of effort.

boards gross weight will become airborne at a 10 degree blade pitch, using a star speed of 440 rpm, and a 2300 rpm, engine speed. For his prototype he uses an 85 hp. Pobjoy radial engine mounted in the fuselage directly behind the pilot. Cooling is attained with a centrifugal type system fan that draws rather than forces air around the cylinders.

While the blade pitch is manually controlled by the pilot, the engine throttle is connected to the pitch control arm. In very low power output automatically with pitch variations in cruising flight.

Landgraf's rotor disks have a fixed forward inclination of six degrees from the vertical, indicating a normally forward-motion takeoff. Vertical takeoff and hovering flight will be accomplished by inclining the nose of the fuselage upward, shifting rotor disks into a horizontal plane, through the control of rotor afferents.

Started in 1933—Landgraf first began preparing preliminary data for his design in 1933, four years prior to the appearance in Germany of the Focke-Wulf helicopter. Actual construction of Landgraf's helicopter began in 1946.

Texas 'Copter Plans

Construction of a two-place helicopter by Hartzog Aircraft Co. of San Antonio, Tex., under a non-exclusive agreement with David J. Little, formerly with Don Hollister Associates in Detroit, was reported last week.

Little said the first model is expected to be test flown in about three months.

Industry Warned of Big Reconversion Job

Plans manufacturers must be prepared to do their part, U. S. officials point out after passage of bill.

High government officials were warning last week, after passage of the contract termination bill in a form that will permit speedy reconversion of plant facilities, that the aviation industry would be prepared to do its part of the job.

In comments already received, the government has found that it has to plan for claims, and that industry generally is not prepared for the volume of paper-work necessary for speedy settlement of outstanding claims.

Heavy Volume Expected—These government officials said that, with the passage of the contract termination bill and the setting up of contract termination teams and schools for the training of members of these teams, the government was getting ready to deal with the heavy volume of cancellations that will come with the collapse of Germany.

Some aviation companies already have begun establishing units that will be concerned solely with the termination of contracts and the settlement of claims, but many others have yet to make provision for the handling of this work. The efficiency with which companies can move will be a determining factor, in most instances, of the speed with which settlements can be completed.

Horizontal Settlements—While

there is considerable talk in Washington circles about the so-called "horizontal," or company-wide settlement method, these officials doubt that it will prove feasible. The Army is known to feel that it will not prove satisfactory in most cases. On the other hand, the civilian X-ray planters are known to favor the method on the grounds that it will permit greater efficiency and speed, particularly in the case of large contractors—in the 10 percent of industry handling the 66 percent of war orders.

Whatever the method, the government officials warn that terminations are going to mount steadily until the end of the European phase of the war and suddenly after that. It is the duty of industry to have the organization ready to meet the problems, they say.

Automotive Output Doubles Prewar Top

Deliveries of war products by the automotive industry are double the amount produced in the peak peacetime year of 1941, with \$14,444,000 deliveries of war materials from the period September, 1938, to June 1, 1944.

According to George Remy, managing director of the Automotive Council for War Production, manufacture of aircraft, parts and subassemblies, makes up approximately six billion dollars worth of the total, with 236,000 aircraft engines included. Other items include military vehicles with sport parts, over five and a half billion; \$2,346,000,000; guns and machine equipment, \$1,250,000,000 each and ammunition and miscellaneous equipment, over \$900,000,000 each.

New Tube Bender

A new manually operated tube bender, which will produce 900 to 1,900 bends an hour has been designed by Douglas Aircraft and approved and is now being manufactured under exclusive license by Leonard Precision Products Co., Glendon Grove, Calif. It will handle non-ferrous tubing from three-eighths to one and one-quarter O.D., producing from one to 16 different bends in a single nine-foot length of tubing. These can be produced in any specified degree of angle up to 118 degrees and at any radial angle.



No single thing deserves all the credit for winning the conquest of the air. As in most all of man's great achievements, the credit is due to the close partnerships formed between a group of widely separated agencies. A good example is provided by Aeronautics and Electronics.

Ever stop to think how important the electron vacuum tube is to modern flying... and how increasingly important it becomes as aviation progresses? Remember! It's through dependable communication, instrument land-

ing and other electronic devices that commercial aviation achieved its pinnacle of efficiency as to safety and dependability.

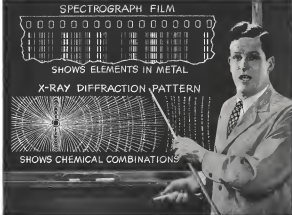
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Ranger Gets the "Inside Story"

These patterns tell the inside story of metals.

They are "pictures" taken of the physical and chemical properties of the raw materials which make up parts of the Raycor Sixes and Twelves.

Ranger technicians employ them constantly in their control of quality—unobtrusively in their daily research into new possibilities.

Under the white arc of the spectrograph, the basic elements in a sample of aluminum are revealed—copper, manganese, silicon—and the proportions in which they occur. The X-ray diffraction camera supplements this information. From the scattered pattern of its pictures can be determined the chemical form in which

the elements in a given sample are constant.

By using another X-ray technique, Ranger technicians can examine the chemical bond between aluminum fins and the steel cores of Ranger cylinders. In the metallurgical laboratories, technicians have found an efficient engine sealing compound; determined standards for synthetic rubbers used in engine construction; unearthed the "whys" of metal failure.

All this adds up to knowledge. This knowledge, plus the ingenuity of design and dynamic balance, has created in Ranger engines a sleek, efficient source of smooth power. The kind of power that lends the "touch of tomorrow in the planes of today."

[illegible]

RANGER AIRCRAFT ENGINES
Division of Fairchild Engine and Airplane Corporation • Farmingdale, Long Island

FINANCIAL

Airline Executives' Salaries

For 1943 Rise 10 Percent Over 1942

Survey of schedules filed with CAB reveals that only six domestic companies paid presidents more than \$25,000 last year.

Domestic airlines' official family received compensation during 1942 totaling \$1,600,956, compared with \$1,186,256 in 1941.

Allowing for the new members who joined the official staff during 1943, the executive salaries last year were only 10 percent above the 1942 level.

A study of salary schedules filed

with the Civil Aeronautics Board shows that only six domestic airlines paid their presidents in excess of \$25,000 for 1943 services.

• Top payment—\$46,000—went to A. N. Kemp, president of American Airlines, Inc. This was \$11,000 more than he received in 1942, according to CAB records.

* Second highest salary was paid to

Jack Frye, president of Transcontinental & Western Air, Inc., in the amount of \$38,663, against \$40,705 the year previous.

* Third largest remuneration was paid to Cecil Hunter, president of Northwest Airlines, Inc., who received \$38,000, compared with \$16,923.

The next three salaries in excess of \$25,000 went to E. V. Rickard, hacker, president of Eastern Air Lines, Inc., \$25,000; W. A. Patterson, president of United Air Lines Transport Corp., \$25,000; and T. E. Bennett, president of Braniff Airways, Inc., \$25,250.

Wide Spread in Salaries — The survey shows that in many instances the chief executive's salary was almost double the amount received by the next highest paid official. For example, Mr. Brantiff's salary of \$33,386 was more than twice the \$16,838 received by his

[illegible]

These pills help cure the high-octane headache



This is a molecule of ordinary gasoline. Like any gasoline it will burn, but this arrangement of atoms causes severe detonation in high-compression aircraft engines.



OH! Fishbone refining produced some gasoline that too good enough for aircraft engines—but only a little, and it wasn't good enough for today's planes.



The mass plentiful ordinary gasoline now be turned into high-octane aviation gasoline by breaking hydrogen and carbon atoms are rearranged to form a different kind of molecule.



The new catalyst developed by Standard of California does the trick. A catalyst causes a change in gasoline but does not actually enter into the new product.



Here is how it is used. Ordinary gasoline, reformed, goes into a chamber filled with millions of these little catalyst pills. When the vapor touches the catalyst—



its molecules are split open and the atoms arranged in a new pattern. Our scientists devote 1 year of research to finding the catalyst that would accomplish this best.



This is how the molecule looks after it has been so reformed by the catalyst. Some-day scientists have made it non-detonating. It is now safe for aircraft engines.



Now, when every pint of aviation fuel is precious, we're making thousands of additional barrels thanks to another triumph of Standard aviation research.

STANDARD OF CALIFORNIA



TRANSPORT

War-Curbed Airlines Maintain Mileage Near Pre-War Level

Despite suspensions and loss of equipment, domestic network of more than 44,000 route miles is in operation, compared with 45,152 before Pearl Harbor.

By MERLIN MICKEL

Although their lack of equipment and many routes still are suspended, while others are yet to be started, the domestic airlines' network of more than 44,000 miles compares well, considering the war, with their 45,152-mile operation before Pearl Harbor.

Actually, with suspensions and these curtailments under which flying has not yet started, route mileage authorized is almost up to 50,000. This figure from Civil Aeronautics Board records includes virtually all of the approximately 6,000 miles granted by CAB since July 1, 1942, but misses a few mileages. Most of the latter are at individual airports. Some have yet to be assigned on new awards—such as those in the New York-Boston route dispute.

Current Operating Mileage—Operating route miles at the first of this month, the Board's figures indicate, were 44,688. Authorized mileage was 50,890. Both, of course, vary as new route cases are decided.

Here is the breakdown on operating mileage: All American airlines, 1,239; American, 7,917; Braniff, 1,074; Chicago and Southern, 1,363; Colonial, 255; Continental, 2,394; Delta, 1,364; Eastern, 4,841; Hawaiian, 307; Inland, 1,237; Mid-Continent, 1,612; National, 1,891; Northwest, 2,232; Pennsylvania-Continental, 1,764; TWA, 5,295; United, 3,240; and Western, 1,633.

Also to be included in the latter set of figures are Catalina's 61 miles, authorized but suspended, and Kaiser's 679 miles of Texas feeder routes, which the line hopes will start soon when equipment is available. All American is the only exclusively pickup line in the list. Hawaiian's authorized and oper-

ational mileages are the same, although some points on its routes are under suspension. Catalina's also are the same.

Other lines' non-operating mileages: American, 680; Braniff, 792; Chicago and Southern, 75; Continental, 75; Delta, 9; Eastern, 2,229; Inland, 1; Mid-Continent, 356; National, 906; Northwest, 280; Northwest, 223; PCA, 1,979; TWA, 1,356; United, 461; Western, 232.

New Route Awards—Among the major new route awards since Pearl Harbor are 1,828 in Mexico City added to American's system on FAN 38; approximately 900 to National between Jacksonville and New York; Continental's Denver-

New Trips

Airline schedule changes reported to Civil Aeronautics Board effective July 1 include:

American Airlines—Three additional round trips daily, New York-Boston on AM 19, one additional round trip daily New York-Dallas on AM 21.

Braniff Airways—One additional round trip daily, Chicago-Dallas on AM 9; one additional round trip daily Houston-Dallas on AM 20; one additional round trip daily, Houston-Casper (Cym) on AM 15; one less round trip daily San Antonio-Casper (Cym) on AM 15. Fort Worth is being served on one of the daily round trips on AM 9 for the first time in about five years. It had been omitted on AM 8 and AM 15 but was served on the latter.

Eastern Air Lines—Inaugurated service on AM 47 with one round trip daily, St. Louis-Washington via Richmond and Louisville, with another to be added about July 15, direct—on one round trip daily between N. Y.-Miami on AM 6.

Kansas City route and its extension on AM 39, totaling about 900 TWA's and United's routes into Washington, Western between Los



AT FEEDER AIRLINES MEETING:

Three phases of interest in development of feeder airlines—manufacturers, government and the operators themselves—are represented here by (left to right) R. P. Gibbs, American Corp., William Burgess, assistant to William A. M. Berden, Assistant Secretary of Commerce, and Henry Stringer, president of the Feeder Airlines Association, at whose recent organizational meeting in Washington this picture was taken. American Corp. and Consolidated Paine Aircraft Corp. gave a dinner for association members. The organization made provision for industrial membership by aircraft and equipment manufacturers.

43

FREE ENTERPRISE

The Obligation of Management and Labor to Cooperate...in War...in Peace

The lesson is one: We have unleashed our full might for military victory. We have confidence that our great strength will bring success. We are strong because we have achieved unity in mobilization and in combat.

Through victory appears ahead, we cannot rest until we have done everything in our power to speed the day when death and destruction are halted.

The home front is as important factor in this time element, for the fighting power of our Armed Forces depends upon their weapons. Napoleon's army fought "on its stomach"—man against man. Eisenhower's men fight on their stomachs—tanks, artillery, machine guns, heavy bombers.

As never before in the long succession of wars, the legends of heroic deeds on the battlefield in this world conflict will be paralleled in history by the great accomplishments on the production front. Along with these heroic achievements of our Armed Forces, the world will long remember the record of our production accomplishments which have made us the strongest military power in the world, as well as the arsenal of democracy.

As the conflict reaches its climax, as battles grow fiercer and more destructive, our responsibility becomes greater and more critical. We must coordinate our production efforts with the same urgency and the same precision with which our Armed Forces have coordinated theirs. We dare not waste the productivity of a single man or machine in these critical days.

As our leading craft are discharging our fighting men on the beaches of Europe and the Pacific, they must not wait for equipment. No interference with war production for any reason can be justified. There must be no picket lines in America!

The leading of American troops in France virtually has stopped all strikes in the United States. This is important and encouraging news because the prelude to hostilities, unfortunately, has been an epidemic of strikes. Time lost through strikes during the first four months of 1944, was double that lost during the same period last year. April saw more strikes than any other month since Pearl Harbor, and in May the record again was broken. Here is what happened within two weeks in May:

Nine thousand men in six Chrysler plants in Detroit went out when a jurisdictional dispute in a "bids pgt." was lost between the American Federation of Labor union and the

Congress of Industrial Organizations find their demand

A storm did not alone split around some 950 employees in the U. S. H. Aircraft plant over the refusal of the company to discharge a superintendent unsatisfactory to the union.

Thirteen hundred men in the Chevrolet transmission and axle plant at Saginaw struck over a no-smoking rule and a change in shift starting time.

Two thousand employees at the Brown and Sharpe Machine Company walked out when a woman was fired to fill a job long held by a man.

Production of pistons, blood plasma, and other medical supplies was halted at two Detroit plants of the Packe Drive Company as 1500 employees struck for a ten cent raise.

Over 15,000 lumber workers in the Pacific Northwest struck because the War Labor Board denied their demand for a wage increase.

At the end of the third week of May, 70,000 workers in 25 plants in Detroit were idle because of strikes.

Strikes in Detroit alone reduced production as much as a moderately successful German air raid would have done. Far more important than their effect on output is the effect of strikes upon national unity and morale. To our home front and to our Armed Forces, strikes belie our pledge to back the attack with all the power at our command. Hence, strikes hurt our all-out war effort.

Prompt and decisive action is needed to keep America free from strikes for the remainder of the war. Stoppage of work on the production lines cannot be considered while lives are being lost in fighting the enemy.

Most union leaders realize this need and are preparing to impose discipline upon their members who violate the no strike pledge. The War Labor Board of the International Longshoremen's and Warehousemen's Union (C.I.O.) recently declared: "Strikes in this time of war are treason against the nation and betrayal of the interests of labor." A message sent by William Green to all leaders of American Federation of Labor unions stated:

"Today in late France men on steel belts are finally enabled, every worker engaged in the army of production must not allow himself a part of the situation known as the United States and conduct himself accordingly. I call on you in the name of the American boys who are making their lives and their money for to maintain uninterrupted production under any and all circumstances. Until victory is won every worker must give the same. If you are not, you are giving on the field of battle."

Strongest of all was the appeal of R. J. Thomas, president of the United Automobile Workers, to members of his union:

"Our union cannot survive if the union and our soldiers believe that we are obstructing the war effort. There can be no such thing as legitimate picket lines... I appeal to our membership: If you value your union, if you want to live and serve after the war, we must maintain ourselves and our last hundred battles here. If we do not, there will be no union after the war."

Union officers are entitled to vigorous support from management and government in their efforts to prevent strikes. Behind every strike is an accumulation of unsettled grievances. Managements are overworked, and many union shop stewards are new and inexperienced and do not always do their part in turning down cases which lack merit. Both of these conditions make it easy for large backlogs of unsettled grievances to pile up. A special drive to clean up unsettled cases and to prevent new accumulation of them is one way by which management and local union officials can help shorten the war.

The government too has a contribution to make to the prevention of strikes—both through the prompt disposal of disputes and through firm action against the leaders of strikes. The National War Labor Board and the Regional Boards are disposing of over five thousand cases a month and have made an excellent record in reducing their backlog. Nevertheless, the boards still have many old cases, and about one out of four strikes has been an effort to get action from one of the labor boards. The boards are entitled to cooperation from employers and unions in keeping down their dockets. In instances where strikes are dropped in the lap of the board before the union and employer have made a real effort to get a meeting of minds and to work out settlements.

In the present emergency, strikes are an expression of the lack of adequate understanding and team work between unions and management. Any future great stoppage in industrial life likewise will be due to misunderstanding. After this war the country must get on through another 1949 when the time lost from strikes reached an all-time high. With 35 million workers, or almost half of the non-union employees of the country, in trade unions, the power and prestige of unions is greater than ever. The long-run prosperity of the country requires their business and labor learn how to cooperate in supporting the policies which produce the highest possible profits and the largest possible payrolls.

Although business is naturally interested in the largest possible profits, and labor is naturally interested in the largest possible payrolls, both objectives call for the same basic conditions. Payrolls depend upon the prospects for profits. If bad relations between business and labor or erratic public policies cause employers to take a pessimistic view of the outlook for profits, both employment and payrolls will be depressed.

Individual unions and individual employers always will have differences over wages and hours and the status

of labor in particular plants or in particular occupations. Some disputes on such issues are inevitable, but resort to arbitration and labor intelligence can help greatly in avoiding strikes in the long run. Cooperation between labor and management is an economic necessity. In our kind of economy, payrolls and profits both depend upon the willingness and the ability of business and labor to work together in creating the conditions under which enterprise flourishes.

The foundation for intelligent and effective cooperation must be accomplished by skillful and imaginative managers in plants throughout the country who are willing to help unions with their problems, and who are able to interest union leaders and their members in the problems of business. Union members and their leaders are keenly interested as a rule in the efforts of management to win new markets. They know that jobs depend upon the success of management in improving the product, adding new items to the line, and, less frequently, cutting costs and prices. Employees like to be kept informed about what management is doing, what problems it is meeting, and what success it is having. Most of all, they like to have an opportunity to contribute their ideas and suggestions.

The recent epidemic of strikes should not blind us to the fact that even today there are more plants where management and unions are on good terms than ever before in the country's history. Compared, on the one hand, the extensive and constantly growing efforts of unions to train and develop shop stewards and, on the other hand, the efforts of employers to teach workers how to carry out the new responsibilities imposed upon them by union agreements. Unions and managements together are learning how to operate together. Such technical devices as time study and job evaluation. Management, which, several years ago, opposed the provision of wages to individual union agreements and to settle deadlocked cases today are taking the lead in suggesting such arrangements.

The war is teaching a lesson, and all groups in the country must be aware as never before of their common interests. This presents an opportunity which should be seized to lay the permanent foundations for more effective team work in American industry. Let history record that the days when Europe was being liberated also were the days when unions and employers were making unprecedented progress in improving American industry for the status of the service men by developing policies of cooperation between business and union. Such cooperation will help achieve a peace worthy of our efforts and our sacrifices.

James H. McPherson, Jr.

President, McGraw-Hill Publishing Company, Inc.

Asks Easing of Rule On Flying Altitude

Feeder line applicant asks revision of regulations a "must" if pickup operations are to pay.

By SCHOLER BANGS

The return of under-weather contact flying, reminiscent of "old air mail days," is forecast by Ted Mitchell, operations manager of Southwest Airways, which has filed for a West Coast route to serve more than 180 communities and cities. Mitchell believes it will be safe and that revision of Civil Air Regulations to permit it will be a "must" if feeder operations are to pay.

"We will not be able to afford to fly at altitudes of over 10,000 feet above ground," he says.

ATC Route Example—Mitchell's contention that operations below 10,000 feet are safe is supported by Southwest's experience in operating a cargo feeder schedule for the Air Transport Command over a terrain typical of that involved in the company's feeder application.

This company has flown one million miles, averaging 1800 operational miles a day, and carried more than 2,000,000 pounds of cargo without loss.

Thorough Tests Made—Much of Southwest's flying has been under conditions that have enabled thorough testing of the safety of low-altitude flight.

No inherent factors involved in ensuring passenger safety in non-normal low-level feeder operations will be.

Reliable point-to-point radio communications and accurate weather systems.

Rigid enforcement of safe flight procedures applied to a given route.

Use of multi-engine airplanes. Southwest's feeder line planning calls for the use of twin-engine mainliners (35 to 40 to begin service) if the full proposed route is certificated; carrier 12 passenger and 1000 pounds of mail and express. A cruising speed of 140 mph is proposed to provide a route operating speed of 130 mph.

Grounded Texas Feeder—An official this is long cross-country operations will be the grounded turn of feeder airlines at stopping points, and Mitchell believes it possible to limit time-on-ground at each stop to five minutes. When Southwest began ATC operations, grounded time at stops averaged 36



AIRLINE REVENUES AND EXPENSES FOR 1942:

These new charts show the source of domestic airline revenues in 1942 and their expense outlets. Revenues totaled \$121,213,023; expenses \$107,847,840.

minutes. Grounded time now is averaging 30 minutes per stop, but such approximating commercial operations have given grounded times ranging from a maximum of six minutes to a minimum of slightly less than three minutes per landing.

Applications Reveal WAL Expansion Plan

Line seeks routes to bolster newly merged Western-Inland system.

CAD Applications

Further phases of Western Air Lines' expansion plans are revealed in three applications filed last week with the Civil Aeronautics Board. Western has made numerous filings in recent weeks, seeking routes to strengthen the newly combined Western-Inland system.

New routes applied for are:
Seattle, Wash., to Great Falls, Mont., via Spokane, Wash., Coeur d'Alene, Idaho, and Kalispell, Mont.
Chico, Wyo., to Omaha, Neb., Casper, Wyo., to Omaha, and Brookings, S. D., to Omaha.
Huron, S. D., to Marshall, Minn.
Casper, Wyo., to North Platte, Neb.

Scottsbluff, Neb., to Ainsworth, Neb.
Billings, Mont., to Casper, Wyo.
Billings to Rock Springs, Wyo.
Wyand City, S. D., to Ravenna, Wyo.

Ravenna to Jackson, Wyo.
Denver, Colo., to Rock Springs, Wyo., and Lander, Wyo., to Casper, Wyo.

Arizona Airlines asked to extend AM 30 from Fort Worth to Houston, Texas. This extension,

if granted, would parallel Bestall's AM 15 between these points.

Eastern applied for increases of Austin between Houston and San Antonio, Texas, on AM 3, and asked to consolidate the application with the Texas-Oklahoma case.

Other applications include Wisconsin Central Airlines, Clintonville, Wis., for a temporary and/or permanent certificate for routes between Chicago, Ill., and Duluth, Minn.; Chicago and Clintonville, Wis.; and between Marquette, Mich., and Minneapolis, Minn. Fifty-one percent of the airline's stake is owned by the Texas Western Airline Co., Clintonville, which also owns controlling interest in a trucking company.

Lyon Van & Storage Co., Los Angeles, Calif., for a certificate to carry aircraft parts, household goods and similar items by plane over irregular routes anywhere in the United States on a call and demand service. Another application requests similar rights into Canada, Alaska and Mexico.

Air Forum in W. Va.

First meeting of the West Virginia Aviation Forum held last week in Charleston, W. Va., demonstrated widespread enthusiasm in that state for aviation both commercial and private.

The forum, sponsored by the Aviation Commission, West Virginia Planning Board, the State Board of Aeronautics, the Aviation Consultant to the Governor, the West Virginia Civil Air Patrol, and the West Virginia Aeronautics Association, was attended by nearly 200 persons who gathered to hear the views of

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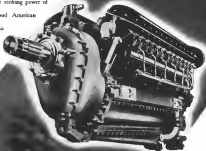
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Cutbacks Must Be Faced

DIFFERENTIATION OF THE SITUATION which resulted at Evansville, Indiana, last week when press association news stories from Washington reported that P-47 production at the local plant would be discontinued after the first of the year, should be studied carefully by the Army and Navy in every community which has a thriving aircraft or other war plant.

The local newspapers, the Chamber of Commerce and other civic groups howled to local military authorities, to War Department officials in Washington, and to their Congressmen.

This problem will be faced by both the services and industry. It is obvious and inevitable that cutbacks are on the way and will increase. The necessarily temporary nature of war production must be emphasized by local executives and government officials at the time such cutbacks are announced. Local pressure, political otherwise, to continue operation of war activities another few months after Washington officials deem such work no longer necessary to the overall program is useless.

Much confusion in cutbacks or terminations could be eliminated if the Army and Navy would send just one high officer to the community to provide the facts in each case to workers and civic officials and explain the local context in terms of the national or international picture. Our production is scarcely as the security realm any longer, except for a few weapons.

With changes in the fortunes of war the fair-minded individual realizes it is not always possible to give ample notice an schedule changes, but it should be possible for the services to take more pains than they have done to avoid misunderstandings, confusion and bitterness. Telling workers and civic officials into their confidence is such a logical part of good public relations that it is difficult to understand why this type of assignment has been ignored.

Fewer Restrictions

THE REALIZATION by government officials in Washington, namely those in the Civil Aeronautics Administration and the Civil Aeronautics Board, of the absolute necessity of simplifying pilot, aircraft, and traffic regulations in personal aviation is one of the brightest spots in a post-war picture that has other dark and confused aspects. CAB officials are already well along on a vigorous overhauling of pilot regulations which has received unanimous approval from private flying groups.

The latest development is a recommendation by Administrator Stanton that CAB distinguish in regulations between the personal and commercial plane, easing and simplifying the requirements for repair and maintenance of the craft used solely in personal operation.

Stanton suggests a new classification of "NP" for aircraft used for non-commercial or personal flying. This would relieve the private owner of restrictions similar to those imposed as such shown for hire under the present all-inclusive "MC" classification. (Under international agreement non-solitary planes in the U. S. are assigned the letter "N" to distinguish them

from aircraft of other nations, with other letters.)

The NP—or personal—plane would be required to undergo inspection by a certified mechanic only once each year instead of every 100 flight hours as now stipulated. Thus, certified pilots of private grade or higher would be allowed to perform their own routine maintenance and minor repairs and minor alterations to aircraft, aircraft engines, instruments and propellers on personal planes. Major repairs and alterations, of course, would still be performed by certified mechanics, certificated repair stations or the manufacturer.

If adopted, this would mean that the owner of a personal airplane may repair and maintain it much as he now does his automobile. Doubts were. Furthermore, the personal plane owner need no longer keep a log book detailing the operation of his plane.

The extension of responsibility to private owners for items which affect only their safety will not adversely affect the safety of the general public.

Stanton also recommended that planes imported into the U. S. under an acceptable airworthiness certificate be granted the new NP classification without inspection by CAA inspectors.

This latest move is in line with the program soon to be initiated by the new and prospective Personal Aircraft Council of the Aeronautical Chamber of Commerce to attain maximum ability of personal aviation after the war. A lasting united front representing CAA, CAB, the Department of Commerce, the Chamber, National Aeronautics Association, and the private flying associations can argue an overwhelming victory over any prejudiced and potential interests which attempt to stymie the sensible planning and growth of personal flying.

Veteran Pilot Surplus

WITH THE HOUSE OF REPRESENTATIVES' virtual order to liquidate the WARREN now a matter of record, another perplexing phase of the Army's problem of surplus pilots is coming forward known as Washington. The condition is becoming worse each week as combat pilots are being returned to this country in increasing numbers. Many of them will never fly another machine over enemy lines. They know this. So do the policy-making officers in the Pentagon.

Many returning pilots have been made instructors. Others are taking special training courses. Still others are in desk jobs, and doing well. But hundreds of them are frozen out entirely because there simply are not enough assignments for everyone. There are even too many ferry pilots because there are more men than planes. These men are killing time day after day on what is developing as one of the war's most unfortunate byproducts. Some are not flying as much as twelve hours a month. Morale, inevitably, is dropping to new lows.

The matter is deserving of immediate attention by AAF leaders. If these veterans cannot be assigned to worthwhile military posts some provision should be made to place them on reserve status and permit them to lead their lives in civilian life, and the occasion the better, both for themselves and the morale of the Army Air Force.


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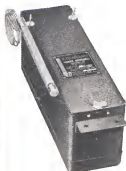
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